

REMARKS

This Amendment is being filed in response to the Office Action dated June 12, 2007. Reconsideration and allowance of the application in view of the amendments made above and the remarks to follow are respectfully requested.

Claims 1-8 and 12-23 are pending in the Application. Claims 9-11 are canceled herein, without prejudice. The Applicants respectfully reserve the right to reintroduce subject matter deleted herein, either at a later time during the prosecution of this application or any continuing applications. Claims 17-23 are added by this amendment. Claims 1 and 13 are independent claims.

By means of the present amendment, the claims are amended for better form and clarity. Claims 3 and 11 are amended to put the claims back in a form introduced during a Preliminary Amendment submitted concurrent with the original filing of the patent application. These amendments were apparently lost due to a clerical error. The claims are not amended to address issues of patentability and Applicants respectfully reserve all rights under the Doctrine of Equivalents.

Claims 1-4, 6-7 and 12-16 are rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent Publication No. 2002/0070343 to

Hoffman ("Hoffman") in view of U.S. Patent No. 6,528,796 to Kaifu ("Kaifu"), U.S. Patent No. 5,770,706 to Wu ("Wu") and JP 09054162 to Haruo ("Haruo"). Claim 5 is rejected under 35 U.S.C. §103(a) over Hoffman, Kaifu, Wu and Haruo in view of U.S. Patent No. 6,063,688 to Doyle ("Doyle"). Claim 8 is rejected under 35 U.S.C. §103(a) over Hoffman, Kaifu, Wu and Haruo in view of U.S. Patent No. 6,149,478 to Boedinger ("Boedinger"). These rejections are respectfully traversed. It is respectfully submitted that the claims are allowable over any combination of Hoffman, Kaifu, Wu, Haruo, Doyle and Boedinger for at least the following reasons.

Hoffman is directed to a radiation detector module which has, starting at a substrate 74 and proceeding outward, an adhesive layer 88, a photosensor array 52, a clear film or air layer 86 and an array of scintillators 54 optically coupled to the photosensor array 52 through the layer 86. (See, Abstract, FIG. 5.) Kaifu and Wu are introduced to allegedly show a CMOS chip and a snap-cure resin, respectively.

The Office Action states in page 3, first full paragraph, that "Hoffman does not disclose that the intermediate layers each contain at least two adhesives of different consistency; a first of said adhesives is a rapidly-curing epoxy resin adhesive."

Wu is introduced to cure the recognized deficiencies of Hoffman in view of Kaifu, however, it is respectfully submitted that reliance on Wu is misplaced. The Office Action recognizes that Wu merely teaches (emphasis added) "a snap-cure (i.e. rapidly-curing) epoxy resin adhesive which is mixed with a second adhesive in order to allow for snap curing without a loss of strength or flexibility ...". The Office Action then concludes that "it would have been obvious to one with ordinary skill in the art at the time of the invention was made to add the snap-cure epoxy resin adhesive disclosed by Wu et al. to the adhesives disclosed by Hoffman in the manner as taught by Wu et al. in order to allow for snap curing without a loss of strength or flexibility", yet the Office Action provides no real support for this position.

It is respectfully submitted that epoxies may not be simply substituted for each other without a clear understanding of interactions in "mixed epoxies". Wu issued as a patent more than two (2) years prior to either of Hoffman and Kaifu, yet neither Hoffman nor Kaifu seemed to recognize that which the Office Action takes as an "obvious" substitution.

Further, even if arguendo, the position taken in the Office Action is accepted as true, it is respectfully submitted that

Hoffman in view of Kaifu, Wu and Haruo does not disclose or suggest "wherein said intermediate layer contains at least two adhesives of different consistency and contained within separate portions, a first of said adhesives being a rapidly-curing adhesive to obtain a fast fixation of said gap width and a second of said adhesives being a low-viscosity adhesive to obtain a bubble-free intermediate layer, and spacers" as required by claim 1 and as substantially required by claim 13, even if the adhesives are "mixed" as suggested by the Office Action.

Doyle and Boedinger are cited to allegedly show other features and do not remedy the deficiencies in Hoffman, Kaifu, Wu and Haruo.

Accordingly, it is respectfully requested that independent claims 1 and 13 be allowed. In addition, it is respectfully submitted that claims 2-8, 12 and 14-18 should also be allowed at least based on their dependence from independent claims 1 and 13 as well as the individually patentable elements contained therein.

For example, Hoffman, Kaifu, Wu, Haruo, Doyle and Boedinger, nowhere disclose or suggest (emphasis added):

"wherein at least some quantities of the second adhesive are applied to the surface of the scintillator that faces the CMOS chip as well as to a plurality of bumps that are present on the CMOS

chip" as required by claim 6;

"a third adhesive adhered to said second spacer and said scintillator, and a fourth adhesive adhered to said CMOS chip, said scintillator, said second spacer and said third adhesive, wherein the third adhesive and the fourth adhesive form separate portions of adhesive" as required by claim 15;

"wherein the second of said adhesives has a refractive index greater than 1.5 and enables low-loss transmission of light in the wavelength range of 450 to 550 nm " as required by claim 17;

"wherein a portion of the first adhesive is applied to at least a portion of the spacers" as required by claim 18;

"wherein the portion of the first adhesive is applied to a surface of the portion of the spacers" as required by claim 19;

"wherein the portion of the first adhesive is applied only to tips of the spacers in at least one of the respective intermediate layers" as required by claim 20;

"wherein a portion of the first adhesive is applied without contacting at least a portion of the spacers" as required by claim 21;

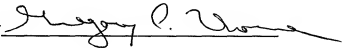
"wherein the portion of the first adhesive is applied as droplets" as required by claim 22; and

"wherein the droplets are applied to a droplet height that exceeds a height of spacers in the respective intermediate layer" as required by claim 23 of the present application. Accordingly, separate consideration of each of the dependent claims is respectfully requested.

In addition, Applicants deny any statement, position or averment of the Examiner that is not specifically addressed by the foregoing argument and response. Any rejections and/or points of argument not addressed would appear to be moot in view of the presented remarks. However, the Applicants reserve the right to submit further arguments in support of the above stated position, should that become necessary. No arguments are waived and none of the Examiner's statements are conceded.

Applicants have made a diligent and sincere effort to place this application in condition for immediate allowance and notice to this effect is earnestly solicited.

Respectfully submitted,

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August 31, 2007

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